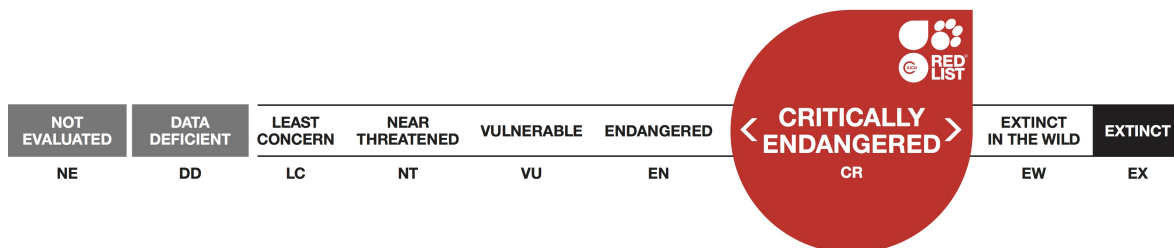


# *Atlantica calathoides*

Assessment by: Teixeira, D.



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## Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Mollusca	Gastropoda	Stylommatophora	Discidae

**Taxon Name:** *Atlantica calathoides* (R.T. Lowe, 1863)

### Synonym(s):

- *Discus guerinianus calathoides* Lowe, 1863
- *Helix calathoides* R.T. Lowe, 1863
- *Helix calathoides* Paiva, 1867
- *Patula calathoides* R.T. Lowe, 1863

### Taxonomic Source(s):

Cameron, R.A.D., Holyoak, G.A., Holyoak, D.T., Yanes, Y., Alonso, M.R., Ibáñez, M. 2013. Shell characters and genital anatomy of *Atlantica calathoides* and transfer of the genus *Atlantica* from Discidae to Gastrodontiidae (Gastropoda: Pulmonata). *Journal of Conchology* 41: 287-294.

### Taxonomic Notes:

A recent revision of the genus *Atlantica* by Cameron *et al.* (2013) based on shell characters and genital anatomy, promoted the transfer of this genus from Discidae to Gastrodontiidae (Gastropoda: Pulmonata). Furthermore, the former taxon *Discus guerinianus* subsp. *calathoides* (Lowe, 1863) becomes *Atlantica calathoides* (Lowe, 1863) according to this revision.

## Assessment Information

**Red List Category & Criteria:** Critically Endangered B2ab(iii,v) [ver 3.1](#)

**Year Published:** 2017

**Date Assessed:** November 29, 2016

### Justification:

This species is endemic to the Madeira Archipelago (Portugal), where it is known from Deserta Grande Island (Cameron and Teixeira 2013). The major threat is predation by mice (*Mus musculus*) and native carabids (*Scarites abbreviatus desertarum*). The habitat cover is also susceptible to changes due to droughts, landslides and goat grazing (D. Teixeira pers comm. 2016). The species is assessed as Critically Endangered under criteria B2ab(iii,v), based on its occurrence in a single location, the reported fluctuations in the population in the last ten years, the observed declines due to predation and the habitat degradation.

## Geographic Range

### Range Description:

This species is endemic to the Madeiran Archipelago (Portugal), where it is known from Deserta Grande Island. It was rediscovered in 2008 by Silva and Teixeira (Cameron and Teixeira 2013, D. Teixeira pers. comm 2016). It is also present as a Quaternary fossil on Bugio (R. Cameron pers. comm. 2016). There

are recent records of living specimens of this species from two sites on Deserta Grande (D. Teixeira pers. comm. 2016), one of them found on the northwestern end and the second one on the southwestern end.

**Country Occurrence:**

**Native:** Portugal (Madeira)

## Population

The population is decreasing. The species was rediscovered in 2008, on both known subpopulations (D. Teixeira pers. comm. 2016). There have been also large fluctuations in monitored subpopulations over the last ten years.

**Current Population Trend:** Decreasing

## Habitat and Ecology (see Appendix for additional information)

This species occurs in very deep ravines, at intermediate altitudes, on habitats dominated by common bracken (*Pteridium aquilinum*). It is found generally near the base of the plants, in the leaf litter or beneath rocks (D. Teixeira pers. comm. 2016). Paiva (1867) found it originally associated with lichens, although Wollaston (1878) doubted that Paiva's record was of recent material (R. Cameron pers. comm. 2016).

**Systems:** Terrestrial

## Use and Trade

There is no known use or trade for this species.

## Threats (see Appendix for additional information)

The main threats are predation by mice (*Mus musculus*) and native carabids (*Scarites abbreviatus desertarum*), and also habitat shifting or alteration and fragmentation due to severe droughts, goat grazing and landslides.

## Conservation Actions (see Appendix for additional information)

A population study and a monitoring scheme are ongoing under the LIFE Recover Natura Project (2013-2017), along with a species ecology study. A species conservation plan will be produced in 2017 and implemented through the post-LIFE project (2018-2022). As an indirect measure, a continued control programme for goat populations has been carried out for the last 20 years, which should be enhancing the species habitat restoration.

## Credits

**Assessor(s):** Teixeira, D.

**Reviewer(s):** Cameron, R., Groh, K. & Seddon, M.B.

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## External Resources

For [Images and External Links to Additional Information](#), please see the [Red List website](#).

# Appendix

## Habitats

(<http://www.iucnredlist.org/technical-documents/classification-schemes>)

Habitat	Season	Suitability	Major Importance?
0. Root -> 6. Rocky areas (eg. inland cliffs, mountain peaks)	Resident	Suitable	Yes

## Threats

(<http://www.iucnredlist.org/technical-documents/classification-schemes>)

Threat	Timing	Scope	Severity	Impact Score
10. Geological events -> 10.3. Avalanches/landslides	Ongoing	Whole (>90%)	Causing/could cause fluctuations	Medium impact: 7
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation 2. Species Stresses -> 2.1. Species mortality 2. Species Stresses -> 2.2. Species disturbance		
11. Climate change & severe weather -> 11.1. Habitat shifting & alteration	Ongoing	Whole (>90%)	Slow, significant declines	Medium impact: 7
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation 2. Species Stresses -> 2.2. Species disturbance		
11. Climate change & severe weather -> 11.2. Droughts	Ongoing	Whole (>90%)	Rapid declines	High impact: 8
	Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation 2. Species Stresses -> 2.1. Species mortality 2. Species Stresses -> 2.2. Species disturbance 2. Species Stresses -> 2.3. Indirect species effects -> 2.3.7. Reduced reproductive success		
2. Agriculture & aquaculture -> 2.3. Livestock farming & ranching -> 2.3.1. Nomadic grazing	Ongoing	Whole (>90%)	Rapid declines	High impact: 8
	Stresses:	2. Species Stresses -> 2.1. Species mortality 2. Species Stresses -> 2.2. Species disturbance		
8. Invasive and other problematic species, genes & diseases -> 8.1. Invasive non-native/alien species/diseases -> 8.1.2. Named species (Unspecified CARABIDAE)	Ongoing	Whole (>90%)	Very rapid declines	High impact: 9
	Stresses:	2. Species Stresses -> 2.1. Species mortality 2. Species Stresses -> 2.2. Species disturbance		
8. Invasive and other problematic species, genes & diseases -> 8.1. Invasive non-native/alien species/diseases -> 8.1.2. Named species (Mus musculus)	Ongoing	Whole (>90%)	Slow, significant declines	Medium impact: 7
	Stresses:	2. Species Stresses -> 2.1. Species mortality 2. Species Stresses -> 2.2. Species disturbance		

## Conservation Actions in Place

(<http://www.iucnredlist.org/technical-documents/classification-schemes>)

<b>Conservation Actions in Place</b>
In-Place Research, Monitoring and Planning
Action Recovery plan: Yes
Systematic monitoring scheme: Yes
In-Place Land/Water Protection and Management
Conservation sites identified: Yes, over entire range
Occur in at least one PA: Unknown
Percentage of population protected by PAs (0-100): 91-100
Invasive species control or prevention: Yes

## Conservation Actions Needed

(<http://www.iucnredlist.org/technical-documents/classification-schemes>)

<b>Conservation Actions Needed</b>
2. Land/water management -> 2.2. Invasive/problematic species control
2. Land/water management -> 2.3. Habitat & natural process restoration
3. Species management -> 3.4. Ex-situ conservation -> 3.4.1. Captive breeding/artificial propagation

## Research Needed

(<http://www.iucnredlist.org/technical-documents/classification-schemes>)

<b>Research Needed</b>
1. Research -> 1.3. Life history & ecology
1. Research -> 1.5. Threats
3. Monitoring -> 3.1. Population trends

## Additional Data Fields

<b>Distribution</b>
Estimated area of occupancy (AOO) (km <sup>2</sup> ): 8
Number of Locations: 1
Continuing decline in number of locations: No
Extreme fluctuations in the number of locations: Unknown

<b>Distribution</b>
Lower elevation limit (m): 350
Upper elevation limit (m): 440
<b>Population</b>
Number of mature individuals: 50
Continuing decline of mature individuals: Yes
Extreme fluctuations: Unknown
Population severely fragmented: Yes
No. of subpopulations: 2
<b>Habitats and Ecology</b>
Continuing decline in area, extent and/or quality of habitat: Yes



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